

ABSTRACT OF THE DISCLOSURE

A surface acoustic wave sensor which incorporates: a) a first layered SAW device consisting of a piezoelectric crystal such as lithium niobate or lithium tantalate with interdigital electrodes on its surface, and second piezoelectric layer such as zinc oxide over said interdigital electrodes b) a second layered SAW device consisting of a piezoelectric crystal with interdigital electrodes on its surface, a second piezoelectric layer over said interdigital electrodes and an analyte sensitive surface such as gold on said second piezoelectric layer c) both saw devices are fabricated on the same substrate d) reflectors are located adjacent the interdigital electrodes in each saw device to reduce the bandwidth of the device e) the resonator circuits of each saw sensor incorporate amplifiers which are dependent.